The Oral Health Management of Patients Prescribed Anti-Resorptive or Anti-Angiogenic Drugs: Dentist and Pharmacist Interviews

In 2011, the Scottish Dental Clinical Effectiveness Programme (SDCEP) published guidance on the *Oral Health Management of Patients Prescribed Bisphosphonates*. In 2015, the guidance was placed under review to take into account the wider range of drugs that had been implicated in the development of Medication-Related Osteonecrosis of the Jaw (MRONJ).

To help inform this review, TRiaDS conducted semi-structured telephone interviews with dentists and pharmacists during the guidance consultation stage.

The aims of the interviews were to:

- explore current practice;
- identify key barriers and facilitators to implementation of the guidance recommendations.

Key Findings

- 13 dentists and 15 pharmacists were interviewed.
- Dentists and pharmacists gave mostly positive feedback about the content and format of the guidance including the patient information leaflets.
- Most dentists were aware of the MRONJ risk associated with these drugs, but a small number were only aware of the risk associated with bisphosphonates.
- Fewer than half of pharmacists were aware of the MRONJ risk.
- For dentists, barriers to implementing the guidance recommendations fell into two broad categories: 1) patient factors: and 2) fear of consequences to patients and self.
- For pharmacists, a key barrier to implementation was knowledge of the MRONJ risk associated with these medications and knowing what information to gather from and provide to patients.
- From the findings of the interviews areas to be considered to facilitate implementation of the guidance include:
    - patient information on a credit card or bookmark style resource;
    - posters for display in practice waiting rooms;
    - more pictures/training in the guidance on how to identify MRONJ;
    - more information and tools for pharmacists;
    - examples of scenarios/case studies demonstrating patient outcomes;
    - how to provide reassurance for dentists in regard to medico-legal concerns;
    - support for a multi-professional 'joined-up' approach.

Next Steps

The findings from the interviews were reported to the MRONJ Guidance Development Group for their consideration when preparing the peer review draft of the guidance.

This summary presents findings from semi-structured interviews conducted with dentists and pharmacists during the consultation stage of the *Oral Health Management of Patients Prescribed Anti-Resorptive or Anti-Angiogenic Drugs* guidance. This was carried out by SDCEP and TRiaDS to inform the development of the new guidance.

SDCEP (Scottish Dental Clinical Effectiveness Programme) has a national remit to provide user-friendly, evidence based, clinical guidance in priority areas for dental healthcare in Scotland.

TRiaDS (Translation Research in a Dental Setting) is a multidisciplinary research collaboration working in partnership with SDCEP to increase the implementation of SDCEP guidance through the development and evaluation of theory-informed interventions for change.

Background and Aim

In 2011, the Scottish Dental Clinical Effectiveness Programme (SDCEP) published guidance on the *Oral Health Management of Patients Prescribed Bisphosphonates*. In 2015, the guidance was placed under review to take into account the wider range of drugs that have been implicated in the development of Medication-Related Osteonecrosis of the Jaw (MRONJ).

To help inform this review, TRiaDS conducted semi-structured interviews with dentists and pharmacists during the guidance consultation stage to explore their current practice and beliefs towards the revised recommendations.

The overall aims of the interviews were to: 1) explore current practice; 2) identify the key barriers and facilitators to the implementation of the MRONJ guidance recommendations; and 3) provide information to support the implementation of the SDCEP MRONJ guidance.

Methods

Design

Semi-structured telephone interviews with a random sample of dentists and pharmacists. Interviews were conducted by Heather Cassie (HC) and Laura Lovelock (LL).

Recruitment

Dentist Interviews: A random sample of 50 primary care dentists was contacted by letter providing the background to the SDCEP guidance consultation process and including a copy of the guidance consultation draft. The letter advised that SDCEP may be in contact to request a short telephone interview.

Pharmacist Interviews: A random sample of 50 community pharmacists was contacted by letter providing the background to the SDCEP guidance consultation process and including a copy of Appendix 5 (Guidance for Prescribers and Dispensers of Anti-resorptive or Anti-angiogenic Drugs). The letter advised that SDCEP researchers may be in contact to request a short telephone interview.

Interview Schedule Development

Semi-structured interview schedules were developed for each group of participants in consultation with the guidance development team and underpinned by the Theoretical Domains Framework (TDF)[1]. SDCEP consultation feedback also informed the content. Two pilot interviews were conducted for each set of interviews. Both HC and LL conducted one pilot per professional role, while the other took handwritten notes. All pilot interviews were recorded, and audio recordings listened back to, to finalise notes. Pilot data was deemed relevant and included in the analysis.

Data Collection

Semi-structured telephone interviews were conducted by HC and LL using open ended questions and probing. Interviews were audio recorded with participant consent and handwritten notes were taken. All audio recordings were listened back to by at least one researcher to ensure accuracy.

Data handling and analysis

Researchers listened back to all interview recordings and notes were checked for accuracy prior to analysis. Data were managed using NVivo 10 software. Using the approach developed by Francis et al[2], content analysis was undertaken using the TDF as an initial coding framework. Once coding at a domain level was complete, each domain was coded into specific beliefs and key themes relating to barriers and facilitators to the implementation of the guidance recommendations were identified.

Governance

All audio files and handwritten notes were anonymised and stored securely and confidentially in accordance with data protection regulations.

Results

In total 28 interviews were conducted (12 primary care dentists; one oral surgeon; 15 community pharmacists). Interviews took place between August and October 2016 and ranged from 15 minutes to more than one hour in duration.

Demographics

Dentists: Of the 12 primary care dentists, nine described themselves as associate dentists, two as principal dentists and one as a dental officer. One associate dentist held a dual role as a specialty dentist in an Oral Surgery Department. One interview was conducted with an oral surgeon, working in secondary care, seeing oncology and head and neck cancer patients. The length of time in post ranged from a few months to 30 years. All participants worked in a practice with a least one other dentist. Settings ranged from suburban, city centre and rural practices.

Pharmacists: Of the 15 community pharmacists interviewed, 12 described themselves as Pharmacy Managers, two as Pharmacists and one as a Locum Pharmacist. Around half of participants reported that they regularly work with other pharmacists in their practice. The length of time in post ranged from less than a year to more than 13 years. There was an approximately equal split of pharmacists based in rural areas compared with those working in city centre premises

General Feedback on the Draft Guidance and Dissemination

Dentists: Most interviewees were positive about the content and format of the guidance. Suggestions for improvements included one participant who said they would prefer a one-page document and another who commented that they would like more pictures. One participant commented that they found Table 3.1 quite lengthy, but could not provide any suggestions for improvement:

"I thought it was quite lengthy…but I can't work out myself how to make it shorter"

The majority said they would prefer to receive both a hard copy and an electronic version of the guidance. They all liked the summary guidance at the start of the document and the flowchart and were keen that both were retained. The patient leaflet was commented on and praised by all interviewees, as a useful tool to be used as a prompt when advising patients of the MRONJ risk associated with these drugs and as information that the patient could take away and refer to in the future.

One participant commented that it would be useful to have more information in the guidance about why the recommendations have changed, in order to help dental practitioners explain to patients why they can now carry out extractions in patients taking these drugs. It was noted that both patients and clinicians would benefit from clarification on this.

Pharmacists: Most were positive about the format and content of the guidance. Only one participant commented that additional information could be provided for pharmacists about the risks of MRONJ and how it can be avoided. Two participants commented on the medical terminology 'anti-angiogenic' and 'anti-resorptive', advising that this is not terminology they would use or were aware of. It was suggested that the list of drugs included within these categories be detailed in the pharmacist information.

It was highlighted that not all pharmacists are aware of the risks associated with these drugs and that it may be useful if a newsletter is distributed to all pharmacists making them aware of the new guidance. It was also suggested that nursing homes should be made aware. There was no clearly favoured option in terms guidance format. Most participants were happy to receive information by email provided it was flagged as being important.

Current Practice

Dentists: Of the 12 dentists interviewed, 10 reported that they were aware of the MRONJ risk associated with these drugs. The remaining two were aware of the risk associated with bisphosphonates but not this wider category of medication.

"*Yes I was [aware] of the bisphosphonates, not these particularly these new…what are they called?"*

The majority reported that they would advise the patient of the MRONJ risk associated with this medication, although currently not all of them record that this advice has been given. Four participants advised that they would only advise the patient of the risk if an extraction was required.

"If I had to do an extraction I would tell them that. For normal procedures I don't think I would."

"*I don't usually speak about it if they're just getting a scale and polish or if they're getting a filling or something. But if I'm definitely going to take out a tooth then I would…Yes, I wouldn't burden them with all that knowledge if they weren't having an extraction, but maybe I should be."*

All participants advised that they would check a patient's medical history by asking the patient to complete a medical history form or by going through this with them. Most said they would not specifically ask about anti-angiogenic or anti-resorptive drugs unless the patient fell into a specific patient group such as medically compromised, those with bone disease or elderly females. All participants discussed offering preventive advice, in some format, and they all reported allocating patients into a high or low-risk group, although this tended to be a bit haphazard and not necessarily recorded. It was noted that having this new guidance would facilitate this process.

In relation to carrying out extractions or procedures which may impact upon the bone in high-risk patients around half reported that they would refer these patients to secondary care. The complexity of the procedure did not generally impact upon this decision.

"If they were high-risk? I generally wouldn't have much dealing with their treatment…if they need an extraction it would be off to the surgeon!"

One participant who reported that they would carry out such a procedure in primary care commented:

"I would do one extraction at a time and consider antibiotic prophylaxis" Participant D007

In relation to reviewing patients, there were varying opinions on when low- and high-risk patients should be reviewed. In most cases if the patient was low-risk they would not review at all.

"Routinely if they were low-risk I don't think I would review at all"

For high-risk patients two participants made reference to reviewing at one week, two week, four week and eight week intervals.

Pharmacists: Six pharmacists reported that prior to reading the draft guidance, they knew about the MRONJ risk associated with these drugs. Only one, however, reported that they would advise the patient of this risk and suggest they make an appointment with their dentist.

All participants reported that they tend to focus on providing information about how to take the medication e.g. taking on an empty stomach, before other medication, remaining upright, taking with a glass of water. Around half reported that they would specifically check if the patient had any swallowing difficulties. Most interviewees reported that they would provide more detailed counselling and gather more information from patients who are being prescribed these drugs for the first time. Thereafter, they would provide a level of monitoring to ensure patient is taking them correctly.

In relation to the management of patients taking these drugs, the majority of pharmacists reported their role as being to provide patients with a level of understanding and information, as well as to ensure the drugs are taken appropriately and safely, ensuring good compliance. They also reported that they see it as their role to provide a level of monitoring and to ensure the drugs are being supplied appropriately. There was a sense that pharmacist view it as being important in terms of how the pharmacy role is perceived and recognised within the medical system as a whole.

"It is a subset of patients we should be speaking to anyway so it's very hard to justify not providing them with this information"

Barriers and Facilitators to the Implementation of the Guidance Recommendations

Dentists: The main barriers identified by the dentists fell into two categories. These were patient barriers and to an extent this linked to not having a joined-up approach with GMPs and other prescribers of these drugs, and also a fear of the consequences to the patient and themselves.

In terms of patient barriers, it was reported that often patients do not know or do not disclose the medication they are taking. They also often do not know how long they have been taking the medication for. Dentists reported difficulties in patients understanding the information associated with the MRONJ risk that they are providing and advised that often patients do not understand why bone medication could impact upon their dental health. It was noted that patient education in this area is important, but that a joined-up approach with the prescribers was also required as often patients do not take the risk seriously if their GP has not mentioned it.

"Patients can't understand why bone medication causes issues with teeth. Patient education is key but there is little time for this"

"I think if the GPs who are prescribing the drugs would become involved in the process, that would help tremendously…"

When it came to referring patients to secondary care a number of interviewees also identified the patient as a barrier to carrying out extraction in primary care. It was noted that where patients had previously had such procedures in secondary care there was an expectation that they would be referred again. Many of those interviewed made reference to the benefit of the patient being seen by the most qualified person for the job.

"I think on the whole they're probably more grateful that they are being referred. It's more like the right person is doing the job"

In general, interviewees did not identify any anxiety or concern in relation to the initial management of patients taking these drugs, however a level of worry did emerge when it came to carrying out extractions or other procedures which may impact upon the bone. Approximately half of those interviewed reported that they would not be comfortable or confident carrying out an extraction on a high-risk patient in primary care. Those who were confident cited experience as the determining factor.

"The only thing that would make me anxious were if it were to be a surgical procedure, I don't think I would be comfortable doing that."

"Experience, nothing substitutes for that."

It was noted that experience can be an issue in relation to all extractions not just this specific patient group and that perhaps there is a generational issue with newly qualified dentists getting less exposure to routine extractions as students.

"…when they go out into practice they are not confident about taking a tooth out, far less a tooth in somebody who's taking one of these drugs."

When asked about the benefits of informing about MRONJ risk, reasons provided included highlighting the need for prevention and enhanced dental hygiene. Almost all participants mentioned the medico-legal consequences and making sure that informed consent is provided.

"Well I suppose there might be litigation, it's always at the back of your mind"

"It's obviously important defensively that we do it" [informing the patient of the risk]

Despite a general understanding that the outcome to the patient would be unlikely to differ whether the extraction was carried out in primary or secondary care, there was still a reluctance from the majority of dentists interviewed to carry these extractions out themselves. Reasons for this included that the patients would be happier in secondary care, they would be seen by someone with greater expertise and they would be in the 'system' for follow up should MRONJ develop. However, feedback from the oral surgeon highlighted that this was not necessarily the case with students perhaps carrying out such procedures, albeit with specialist supervision.

"We do gets lots of primary care dentists phoning up for advice, looking for secondary care to advise them and possibly take the decision making responsibility away…often patients ae referred for an extraction that could be done in primary care however we see it as an opportunity for a student to carry out that type of extraction"

Concern was also raised around knowing what to look for at the review stage and not being paid to see patients for several reviews following such a procedure.

No barriers were raised in relation to confidence or ability to provide patients with information about the MRONJ risk. One dentist provided a useful example of the script she uses with her patients:

"So I've developed this conversation about your skeleton being like a bank account, and you can make deposits and withdrawals... So you think of your skeleton as being the bank and what this drug does is it stops you making withdrawals from the account, and that seems to make a bit of sense to them"

Suggestions made to facilitate implementation of the guidance included; a computer system to flag this medication up to the dentist and act as a prompt, using a patient information sheet as a prompt for discussion with the patient, and a poster for the waiting room which lists the drugs that patients should make their dentist aware of. A suggestion made by a large number of dentists (and pharmacists) was that patients taking this medication be issued with a credit card sized card to keep in their wallet, detailing their medication, how long they have been taking it for and for what condition.

It was noted that having these extractions carried out in primary care would save time and money to the patient and would probably result in the procedure being completed more quickly. Patients may also feel more relaxed having a procedure in an environment they know carried out by a healthcare professional they are familiar with.

A few participants commented on the time factor and that such procedures take longer than they are paid for in primary care, suggesting that greater reimbursement may act as a facilitator.

"Being paid more for it. If you can take longer to loosen the tooth it is less likely to fracture the tooth. Less time removal at the crown, better chance of good healing. Can't take an hour over it in general practice"

Dentists identified a number of changes they intend to make to their current practice after reading the guidance. This included, re-considering the review process, updating their current medical history forms to specifically include these drugs, recording more information in the patients' medical notes and using some of the tools provided in the draft guidance document, such as the flowchart and the patient information sheet. Having read the guidance one participant who currently reviews regularly after an extraction highlighted that they may now change that to just at eight weeks.

In relation to the responsibility of informing the patient of the MRONJ risk there were mixed views from dentists. Four interviewees reported that they did not see this as the role of the dentist and that responsibility lay with the prescriber. The majority however, believed it was a joint role between the GMP (or prescriber) and the dentist.

Pharmacists: One of the main barriers to pharmacists following the recommendations was knowledge. Nine of the 15 pharmacists were not aware of the MRONJ risk associated with these medications. Participants also reported varied knowledge about what information to provide to patients and what information to gather.

Patients' knowledge of their medication and how long they have been taking these drugs for was also identified as a barrier. This was highlighted as a particular problem when dealing with elderly patients or patient representatives.

The interviews highlighted that pharmacy brands (e.g. Boots/Numark) tend to have standardised procedures in place relating to which drugs are classified as high-risk. For these high-risk categories Medical Counter Assistants refer these patients to the pharmacist. However, significant variation was reported in relation to how high-risk medication is being classified and hence pharmacists may not always be presented with the opportunity to counsel these patients.

"A lot of the time these issues happen to the patient without the pharmacist knowing"

Another barrier raised by around half of the pharmacists interviewed was time.

"Other staff may not have time or know to refer to the pharmacist"

"Time can make it tricky if you have a backlog, but there is time to do it"

Despite these barriers there was a real sense of engagement from the pharmacists. The majority were keen to find out more about the topic with a number of those interviewed requesting a full copy of the draft guidance. Three specifically mentioned that they planned to do some CPD on the topic. Others advised that they intended to run reports to identify patients taking these drugs and ensure they knew to make a dentist appointment.

In addition, all noted that they intended to make changes to their current practice as a result of reading Appendix 5 and participating in the interview. This included providing additional information as part of their counselling including advising patients of the MRONJ risk, adding this medication to the high-risk group for referral to the pharmacist, creating new Standard Operating Procedures and convening team meetings to inform other team members.

Improving patient safety and reducing potential harm were the main areas highlighted when pharmacists were asked about the benefits of the following the guidance recommendations. The majority also mentioned job satisfaction, improved relationships with their patients and reported that they saw this as an opportunity to highlight to patients (and other professions) the enhanced role that pharmacists now have in providing healthcare advice.

All pharmacists reported confidence in following the recommendations and only a few suggested there was a requirement for additional training. Those who did, suggested that this could be done as part of their CPD.

One area that pharmacists highlighted was the need for a joined-up approach between the healthcare professions on this topic. There was a sense that they ultimately believed that it was a prescribers' responsibility to highlight the risks associated with these drugs to patients but that dispensers had a role to lay in reinforcing this information.

"We definitely need a joined-up approach…not sure what information GPs have and what they deliver to patients"

Suggestions for Implementation

Based on the findings from these interviews the following areas should be considered to help facilitate the translation of the guidance recommendations:

- Development of a credit card style patient card or bookmark, detailing medication including what drugs, how long for, for what conditions.
- A poster that could be displayed in the waiting room, listing the drugs and conditions that patients should make their dentists aware of.
- More pictures in the guidance/training on what to look for identify MRONJ.
- A statement from the GDC (or other source) supporting the guidance recommendations to reassure dentists in relation to medico-legal concerns.
- Provide more information/tools (patient leaflet) for pharmacists
- Guidance for GPs (It is currently clear what guidance they have, TRiaDS plan to explore this further with an online questionnaire and possible follow up interviews)
- Support for a 'joined up approach' to the management of these patients – three healthcare professional groups reinforcing the message to patients.
- Feedback on referrals or examples of scenarios/case studies to demonstrate patient outcomes, in primary versus secondary care.
- Clarification on the recommended review period for low and high-risk patients – (perhaps no longer than eight weeks but as you feel is appropriate?).

Next Steps

The findings from the interviews were reported to the MRONJ Guidance Development Group for their consideration when preparing the peer review draft of the guidance. To evaluate and support the implementation of this guidance questionnaire surveys will be conducted pre- and post-publication of the final version of the SDCEP *Oral Health Management of Patients Prescribed Anti-Resorptive or Anti-Angiogenic Drugs* guidance

References

1. Michie S, Johnston M, Abraham C, Lawton R, Parker D, Walker A. Making psychological theory useful for implementing evidence based practice: a consensus approach. *Qual Saf Health Care.* 2005;14.
2. Francis J, Stockton C, Eccles MP, et al. Evidence-based selection of theories for designing behaviour change interventions: Using methods based on theoretical construct domains to understand clinicians' blood transfusion behaviour. *Br J Heal Psychol.* 2009;14.

Acknowledgements

SDCEP and TRiaDS would like to acknowledge and thank all participants who contributed to this work.